

Remarks

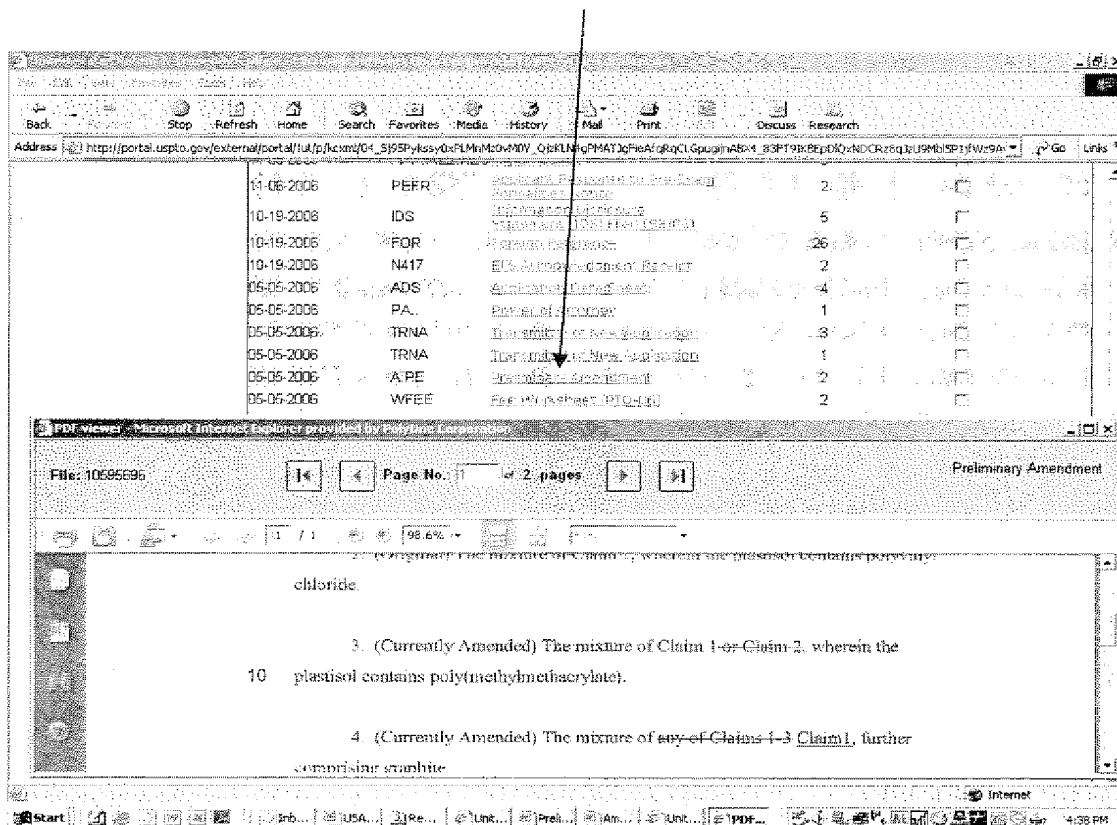
Introductory Comments

Relying on the Preliminary Amendment Claims, of record, for fee calculation, three Claims have been added but more have been cancelled because of the movement of the subject matter of Claim 4 into Claims 1, 7, and 8. No fee is due. If the Office disagrees, it is authorized to charge Deposit Account No. 07-1077 for the amount.

Applicant has amended Claims 1, 7, and 8 and added Claims 21-23. Support for the amendment to these Claims 1, 7, 8, and 21-23 is found in Applicant's Specification at Page 1, Lines 23-30; Page 3, Lines 18-20; Page 5, Lines 16-18.

§112 Rejection of Multiple Dependent Claims

Applicant reproduces an image of the Image File History in Public PAIR showing evidence of the Preliminary Amendment received and a second window showing that amendment removing multiple dependencies. That amendment removed multiple dependencies, which was the basis of this §112 rejection. Therefore, this rejection is moot.



§102(b)/103 Rejection Using Nakamura et al.

The Office has rejected all Claims, except the coating claims¹, as anticipated or unpatentable in view of U.S. Pat. No. 5,403,873. Applicant has amended his claims to clarify how his invention is not anticipated or rendered obvious.

Claims 7, 13, 14, 17, 18, and 22 are novel and inventive because they (in the form of their predecessor Claim 7) were not rejected using Nakamura et al.

Claims 1-3, 5, 6, 8, 19, 21, and 23 are novel over Nakamura et al. because Nakamura et al. disclose *particles of* non-conductive polyvinyl chloride (PVC) or non-conductive polymethyl methacrylate (PMMA) having *surfaces coated with* inherently conductive polymers (ICP) or *particles of* very non-conductive polymers having *surfaces coated with* electrically conductive fine particles, such as graphite. See, e.g., Col. 1, Lines 58-65 etc.

As a product that can achieve such an object, this invention provides a plastisol for use in an electrically conductive molded article comprising non-conductive or high polymer particles having surfaces coated with an electrically conductive high polymer or non-conductive high polymer particles having surfaces coated with filler of conductive fine particles, and a plasticizer compatible with the nonconductive high polymer. 6:

But Nakamura et al. never disclose or suggest:

- (a) *uncoated* ICP or *uncoated* graphite *dispersed in* the plastisol or
- (b) the use of *both* ICP *and* graphite *dispersed* in the plastisol.

Applicant's Claims are novel over Nakamura et al, because, as amended, Applicant claims both ICP and graphite dispersed in the plastisol.

Throughout Nakamura et al. are disclosures of the necessity of the ICP or the conductive filler to be coated on surfaces of the particles of the polymer. For the ICP, the method is to coat the particles with monomer and then polymerize *in-situ*. See, e.g., Col 2, Lines 56-66.

¹ Claim 7 in the International Stage becoming Claims 7, 13, 14, 17, and 18 of the Preliminary Amendment claims and new Claim 22 added in this response.

Also available is a method in which a precursor of the electrically conductive high polymer is formed and adhered to the surfaces of the base resin particles, and the resulting product is then subjected to post treatment. Poly-p-phenylenevinylene can be coated by this method. A water-soluble electrically conductive high polymer such as polythiophene having an alkyl sulpho-
60 nate residue or polyaniline can be coated by a method in which the polymer is added to an aqueous dispersion of
65 the base resin particles and the resulting dispersion is spray-dried.

The method used with electrically conductive filler particles is different but also emphasizes the necessity in the disclosure of Nakamura et al. to fix the electrically conductive material to the non-conductive polymer particles. See, e.g., Col 3, Lines 13-24.

A method to form the electrically conductive filler coatings of the electrically conductive fine particles on the surfaces of the base resin particles can be a method
15 in which the electrically conductive fine particles having much smaller a particle size (preferably one-tenth) than that of the base resin particles are previously mixed with the base resin particles and then fixed on the Sur-
faces by shock in a high-speed gas stream. It is also
20 possible to coat the electrically conductive fine particles on the surfaces of the base resin particles by electroless plating treatment.

When it comes time to teach Nakamura et al. what can be used as electrically conductive particles, Nakamura et al. never disclose or suggest that *both* ICP and graphite can be used together.

Meanwhile, examples of the electrically conductive fine particles used to form the filler coatings on the
5 surfaces of the base resin particles are the aforesaid electrically conductive high polymer powder, a metallic powder, a graphite powder, a carbon black powder, an oxide electrically conductive powder and a phthalocyanine powder. The electrically conductive fine parti-
10 cles are preferably those having a particle size which is one-tenth that of the base resin particles.

The reason the list above does not include combinations is because Nakamura et al. are devoted to making surfaces of polymer particles conductive. The different methods of making conductive the non-conductive surfaces, identified above, would make it quite impractical to use both ICP and graphite on the surfaces. Therefore, a

PHOSITA would not be motivated to look to Nakamura et al. to make what Applicant's claim: a mixture of ICP and graphite dispersed in the plastisol.

Applicant's Claims are patentable over Nakamura et al, because, as amended, Applicant claims both ICP and graphite dispersed in the plastisol.

§102(b)/103 Rejection Using Kulkarni et al.

The Office has rejected Claims 1, 2, 5-7 and 10² as anticipated or unpatentable in view of U.S. Pat. No. 5,217,649. The same amendments to the claims discussed above also clarify how Applicant's claimed invention is not anticipated or obvious.

The movement of the subject matter of un-rejected Claim 4 into independent Claims 1, 7, and 8 make all pending claims novel and inventive over Kulkarni et al.

Conclusion

Applicant requests a Notice of Allowance for all pending claims.

Respectfully submitted by:

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Date

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² Claim 10 was cancelled in the Preliminary Amendment.